## ISSUE SLIP STAPLE AREA (for additional cross references)

| POSITION                  | INITIALS | ID NO.  | DATE     |
|---------------------------|----------|---------|----------|
| FEE DETERMINATION         | PS       | 66621   | 6/13     |
| O.I.P.E. CLASSIFIER       | DW       | 32      | 6/20     |
| FORMALITY REVIEW          | 15/12    | 427 (2) | 54/57/00 |
| RESPONSE FORMALITY REVIEW |          |         | 190/3/   |

## **INDEX OF CLAIMS**

| Rejected                                       | N Non-elected  |
|--|----------------|
| = Allowed                                      | I Interference |
| <ul> <li>(Through numeral) Canceled</li> </ul> | A Appeal       |
| ÷ Restricted                                   | O Objected     |

|             |          |          |        |   |          |   |          |              | <del>-</del> |     |              |              |              |           | nera |          | Car<br>Res |          |          | j        |          |          | 0        |          |          |          |          | ••••• |               | A<br>O     | ppe      | al<br>cte | d        |              |
|-------------|----------|----------|--------|---|----------|---|----------|--------------|--------------|-----|--------------|--------------|--------------|-----------|------|----------|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------|---------------|------------|----------|-----------|----------|--------------|
|             | Cla      | im       |        |   |          |   |          |              | Da           | ate |              | _            |              |           | ]    | C        | laim       | T        |          |          | _        | D        | ate      |          | -        |          |          | 7     | CI            | aim        | Т        |           |          |              |
|             | Final    | Driginal | 1      | 1 | 1013     |   |          |              |              |     |              |              |              |           |      | 1001     | Original   | Ţ        |          |          |          |          |          |          | Ī        |          |          | 1     | Final         | Original   |          |           |          | Ī            |
| F           | 4        | (1<br>-2 | ν      | 1 | <u> </u> | L | 4        | 4            |              | L   | $\downarrow$ | $\downarrow$ | 4            | 1         | 4    |          | 51         | L        | Γ        | Ţ        | Ţ        | Ţ        | T        | I        | L        | I        | I        | ]     |               | 101        | 1        |           | I        | T            |
| -           | -        | 3        | Н      | + | ╀        | ┝ | ╀        | 4            | _            | ╁   | ╀            | +            | +            | +         | -    | $\vdash$ | 52<br>53   |          | ╀        | ╀        | +        | +        | ╀        | ╀        | ╀        | ╀        | ╀        | ┨     | -             | 102        |          | -         | ╀_       | ╀            |
| ŀ           | $\dashv$ | 4        | Н      | + | t        | ⊦ | +        | ┪            | -            | ╁   | ╁            | +            | +            | +         | ┨    | $\vdash$ | 54         | 1.       | +-       | ╀        | ╀        | ╀        | ╁        | ╁        | ╀        | ╀        | ╀        | ┨     | $\vdash$      | 103        |          | ├-        | ╀        | ╀            |
| t           | 1        | 5        | H      | t | t        | t | t        | 1            |              | t   | ✝            | t            | +            | T         | 1    | $\vdash$ | 55         |          | $^{+}$   | ╁        | †        | 十        | +        | ╁        | +        | ╁        | ╁        | 1     | $\vdash$      | 105        |          | ┢         | ╁        | t            |
| t           | 7        | 6        | П      | Ť | T        | Г | T        | 1            |              |     | T            | Ť            | T            | 十         | 7    | Г        | 56         | 1        | 1        | ✝        | T        | +        | †        | T        | t        | †        | T        | 1     | -             | 106        | _        | 卜         | ┪        | t            |
|             |          | 7        |        | Ι | Γ        |   | I        | I            |              | L   |              | Ι            | $\perp$      | Ι         | ]    |          | 57         |          | Γ        | Γ        | Τ        | T        | $\perp$  |          |          |          | 1.       | ]     |               | 107        |          | Τ         | Τ        | T            |
| L           | 4        | 8        | Ц      | 1 | Ļ        | L | ╀        | 4            |              | L   | $\perp$      | ┸            | 4            | 1         | _    | $\perp$  | 58         | -        | L        |          | L        | $\perp$  |          |          |          | L        |          | ]     |               | 108        |          |           |          | Ι            |
| -           | 4        | 9        | Н      | 1 | L        | L | +        | 4            |              | ┞   | ╀            | +            | 4            | +         | 4    | 1        | 59         | -        | 1        | ╀        | ╀        | ╀        | ╀        | ↓.       | ╀        | Ļ        | ╀        | -     | _             | 109        |          | L         | L        | L            |
| ┝           |          | 10       | H      | ╀ | H        | ┝ | ╀        | +            |              | ╀   | ╀            | ╀            | +            | +         | -    | $\vdash$ | 60         |          | ╀        | +-       | ╀        | +        | ╀        | ╀        | ╀        | ╀        | ╀        | -     | -             | 110<br>111 | $\vdash$ | _         | _        | ╀            |
| ┝           |          | 12       | ٧      | 1 | 7.       | ┝ | ╁        | +            | _            | ╁   | ╁            | +            | +            | +         | ┨    | $\vdash$ | 62         | +        | ╀        | ╁        | ╀        | +        | ╁        | ╁        | ╁        | ╁        | ╁╌       | -     | -             | 112        | ├        | -         | ŀ        | ╁            |
| r           |          | 13       | 7      | ħ | γ        | Н | t        | †            | _            | H   | †            | †            | ╁            | $\dagger$ | 1    | $\vdash$ | 63         | $\vdash$ | +        | +        | t        | +        | ╁        | +        | ╁        | H        | ╁        | 1     | -             | 113        | Н        | -         | ┢        | ╁╴           |
| T           | 7        | #4       | Í      | t | F        | Г | T        | 1            | _            | 1   | T            | T            | 1            | T         | 1    |          | 64         | Г        | T        | ✝        | t        | 十        | T        | T        | $\vdash$ | t        | T        | 1     |               | 114        | Н        | _         | Н        | 十            |
|             | _        | 15       | I      | Ι | L        |   | Γ        | Ι            |              |     |              | I            | Ι            | Ī         | ]    |          | 65         |          | Ī        |          |          |          |          |          |          |          |          | ]     |               | 115        |          |           | Г        | T            |
| L           |          | 16       | 1      | Ļ | Ц        |   | L        | 1            | _            | L   |              | L            |              | $\perp$   | ]    | $\perp$  | 66         | L        | L        |          |          |          |          | L        |          |          | L        | ]     |               | 116        |          |           |          |              |
| -           | _        | 17       | 4      | ╀ | H        | _ | ╀        | 4            |              | L   | ╀            | ╀            | +            | ╀         | 4    | L        | 67         | <u> </u> | ┞        | ┡        | ╀        | ļ.,      | ╄        | -        | L        | L        | Ļ.       | 1     | $\vdash$      | 117        | Ц        |           | L        | L            |
| +           |          | 18<br>19 | +      | Ļ | Н        | _ | ╀        | +            | -            | H   | ╀            | ╀            | +            |           | -    | $\vdash$ | 68         | H        | ╀        | ╀        | ╀        | ╁-       | ╀        | ┞        | ⊢        | -        | _        | 1     |               | 118        | -        |           | _        | ╄            |
| +           | -        | 20       | +      | H | Н        | _ | ╁        | ╫            | _            | ┝   | ╀            | ╀            | ┿            | ┿         | -    | $\vdash$ | 69<br>70   | H        | ┝        | ╀        | ╁        | ╀        | ┼-       | -        | Ͱ        | ┝        | ļ        | ł     | $\vdash$      | 119        | $\vdash$ |           | _        | ⊢            |
| ٦Ė          | _        | 21       | +      | ╀ | Н        | _ | ╀        | +            |              | ┝   | ⊢            | ╀            | +-           | ╀         | ┨    | _        | 71         | ┝        | -        | ⊢        | ⊢        | ╀        | ├        | ļ        | H        | -        |          | ł     | _             | 120        | $\vdash$ | _         |          | <del> </del> |
| <b>?</b>  - |          | 22       | t      | t | Н        |   | ╁        | ╁            | -            | -   | H            | +            | +            | +         | 1    | $\vdash$ | 72         | $\vdash$ | $\vdash$ | ┝        | ╁        | ╁╴       | ⊢        | ┢        | -        | ┝        | -        | 1     | $\overline{}$ | 121<br>122 | $\dashv$ | $\dashv$  |          | ┝            |
| ۲           |          | 23       | t      | Ħ |          |   | †        | †            | -            | -   | t            | ✝            | +            | +         | 1    | $\vdash$ | 73         | H        | H        | H        | $\vdash$ | H        | ╁╌       | ┢        | -        | ┢        | ┢        | 1     |               | 123        | $\dashv$ | -         |          | ┢            |
|             | ŀ        | 24       | Ī      | I |          | _ |          | 1            |              |     |              |              | T            |           | 1    |          | 74         |          |          |          | T        | T        | T        | Т        |          | 1        |          | 1     | Н             | 124        | ┪        | $\dashv$  |          | Н            |
| L           |          | -        | 1      | v | _        |   | L        | I            |              |     |              |              | I            | $\perp$   | ]    |          | 75         |          |          |          |          |          |          |          |          |          |          | ]     |               | 125        |          |           |          |              |
| L           |          | 26       | 1      | Ц | 4        | _ | ╀        | ╀            | _            | L   | L            | L            | ╀            | 1         | 1    | L        | 76         | L        | L        | _        | L        | ┖        | _        |          |          | L        | L        |       | $\rightarrow$ | 126        |          |           |          |              |
| F           | _        | 27<br>28 | +      | Ľ | Н        |   | ╀        | ╀            | 4            |     | ⊢            | ╀            | ╀            | ┼         | 1    | <u> </u> | 77<br>78   |          | _        | L        | ┡        | ↓_       | H        |          | Щ        | <u> </u> |          |       |               | 127        | 4        | _         | 4        | L.           |
| -           |          | 29       | t      | ┞ | Н        |   | ╀        | ╁            | -            | _   | ┝            | ╀            | ╀            | ╀         | 1    | ⊩        | 79         | _        | -        | ┞        | ┝        | ╀        | ⊢        |          | H        | _        | -        | ļ     |               | 128<br>129 | $\dashv$ | $\dashv$  | _        | <u> </u>     |
| 卜           |          | 30       | †      | H | H        | _ | ╁        | +            | ┪            | _   | ┢            | <del>l</del> | ╁            | +         | ł    | ⊢        | 80         | H        | $\vdash$ | ┝        | ┝        | -        |          | $\vdash$ | _        | -        | Н        |       |               | 130        | $\dashv$ | $\dashv$  | $\dashv$ | -            |
| 1           | -        | 31       | †      | T | Ħ        |   | 1        | t            | 7            | _   | Н            | t            | $^{\dagger}$ | 十         | 1    | Н        | 81         | -        |          | $\vdash$ | H        | ┢        |          | $\vdash$ | -        | _        | H        |       | $\rightarrow$ | 131        | $\dashv$ | ᅱ         | -        | _            |
|             | Ţ        | 32       | Ī      |   | П        |   | Γ        | T            | 7            |     | Г            | Г            | T            | T         | 1    | Г        | 82         | П        |          |          | _        | 一        |          |          | Т        |          |          |       | _             | 32         | 寸        | ┪         | $\neg$   |              |
| L           | _        | 33       | 1      | L | Ц        |   | L        | L            |              |     |              |              | L            |           | ]    |          | 83         |          |          |          |          |          |          |          |          |          |          |       |               | 133        | $\Box$   |           |          |              |
| -           | _        | 14       | 4      | L | Ц        | _ | ┞-       | $\downarrow$ | 4            |     | <u> </u>     | L            | Ļ.           | 1         | 1    | L        | 84         | Ц        |          | L        | L        | L        | Щ        |          |          |          |          |       |               | 134        | $\Box$   |           |          |              |
| $\vdash$    |          | 15       | 1      | L | И        |   | -        | +            | 4            |     | -            | 1            | -            | $\vdash$  | ł    | <u> </u> | 85<br>86   | Н        | Щ        | Щ        | <u> </u> | L        | Н        |          | Ш        |          | Ц        |       |               | 135        | 4        |           | _        | ļ.           |
| -           |          | ×        | y      | ) | _        | _ | ⊢        | +            | +            |     |              | -            | ╁            | ╀         | ł    | ⊢        | 87         | $\dashv$ | _        |          | -        | $\vdash$ | Н        | Н        | Щ        |          | $\dashv$ |       |               | 36<br>37   | $\dashv$ |           |          | -            |
| r           |          | 8        | Ť      | Ť | +        | _ | $\vdash$ | +            | +            |     | $\vdash$     | ┢            | +            | ╁         | l    | Н        | 88         | -        | $\dashv$ | $\dashv$ | -        | ┢        | $\vdash$ | $\dashv$ |          | -        | $\dashv$ |       |               | 38         | +        | +         | $\dashv$ | -            |
| Г           | 3        | 19       | 1      | Ħ | 1        |   | Т        | †            | Ť            |     |              | 1            | T            | ✝         | 1    | _        | 89         |          |          |          |          | Н        | H        | $\neg$   |          | -        | $\dashv$ |       |               | 39         | $\dashv$ | +         | ᅥ        |              |
| Г           | 4        | 0        | T      | П | 7        |   | Г        | Τ            | T            |     |              | Г            | Τ            | 1         | ĺ    |          | 90         |          |          |          |          |          | $\neg$   |          | $\neg$   |          |          |       | -             | 40         | 寸        | 7         | ヿ        |              |
|             | 1        | 11       |        |   | 1        |   |          | T            | 7            |     |              | Г            | 1            | $\top$    | j    | Г        | 91         |          |          |          |          | П        | П        |          | $\dashv$ | _        | $\dashv$ |       | _             | 141        | $\dashv$ | 7         | $\dashv$ | -            |
| F           |          | 2        | П      |   | T        | _ |          | I            | J            |     |              |              | I            |           |      |          | 92         |          |          |          |          |          |          |          |          |          | _        |       |               | 42         | $\top$   | 寸         | 7        | _            |
| -           | -        | 3        | Ц      | 1 | 1        |   |          | Ĺ            | I            |     |              | L            |              |           |      |          | 93         |          |          |          |          |          |          |          |          |          |          |       | ☐¹            | 43         | ユ        | J         |          | _            |
| <b>′</b>  - |          | 4        | Н      | 1 | 4        | _ | L        | L            | 4            | _   |              |              | Ļ            | 1_        | l    | Ш        | 94         | _        |          | _        |          | Ц        |          |          | $\Box$   |          |          |       |               | 44         | I        | $\Box$    | $\Box$   |              |
| -           | _        | 6        | Н      | + | +        | _ | <u> </u> | -            | +            | 4   | _            | L            | ┼-           | ╀         |      | Н        | 95         |          | _        | $\dashv$ |          | Н        | 4        |          | 4        | _        | _        | •     | _             | 45         | 4        | 4         | 4        | _            |
| -           | 4        | _        | Н      | + | +        |   | ┝        | ╁            | +            |     | _            | $\vdash$     | +-           | ├-        |      | H        | 96<br>97   | 4        | $\dashv$ | -        |          | Н        |          | -        | -        | -        | $\dashv$ |       |               | 46         | 4        | $\dashv$  | 4        | _            |
| -           |          | 8        | И      | y | +        |   | $\vdash$ | $\vdash$     | +            | -   | -            | H            | $\vdash$     | $\vdash$  |      | Н        | 98         | ┥        | $\dashv$ | ┥        |          | Н        | ᆉ        |          | +        | $\dashv$ | 4        |       |               | 47<br>48   | +        | +         | +        | _            |
| T           | 14       | 9        |        | + | t        |   |          | T            | †            | 7   | ٦            | -            | †            | $\vdash$  |      | $\vdash$ | 99         | 7        | 7        | 7        | -        | Н        | $\dashv$ | $\dashv$ | +        | ᅥ        | ᅥ        | i     | _             | 49         | +        | +         | +        |              |
| Ľ           | 5        | 0        | $\Box$ | _ | Ι        |   |          |              | I            |     |              |              |              |           |      |          | 100        |          |          |          |          |          |          |          |          |          |          |       |               | 50         | 士        | _         | 7        |              |

| CI   | aim      |           | _        |    |         |   | D        | ate | _  |               |          |          |
|--|----------|-----------|----------|----|---------|---|----------|-----|--|---------------|----------|----------|
| $\vdash$                                     | Т-       | $\vdash$  | Τ        | Т  | Т       | _ | Ť        | Т   | $\neg$   | Т             | Т        | $\top$   |
| Final  | Original | ĺ         |          |    |         |   |          |     |  |               |          |          |
| $\vdash$                                     | 101      | 1         | 1        | 1  | 7       | _ | 1-       | +-  | 十  | +             | 十        | +-       |
| 一  | 102      | _         | H        | +  | +       | _ | ┢        | +   | +  | +             | +        | +-       |
| -  | 103      | ┝         | ┢        | ╁  | ╅       | _ | ŀ        | ╁   | ╫  | ╁             | +        | +-       |
| ⊢  | 104      | ⊢         | ┝        | ╀  | 4       |   | ₽        | +   | +  | +             | +        | +        |
| $\vdash$                                     | 105      | $\vdash$  | ⊢        | ╀  | +       |   | ⊬        | +   | +  | +             | +        |          |
| -  | _        | ⊢         | ⊢        | ╀  | +       |   | ┡        | +   | 4  | +             | - -      | ╀        |
| <u> </u>                                     | 106      | _         | ⊬        | ╀  | 4       | _ | ļ_       | 4   |  | 4             | 4        | +        |
| ⊢  | 107      |           | ┡        | ╀  | 4       |   | L        | +   | +  | +             | 4        | +        |
| ⊢  | -        |           | ⊢        | +- | 4       | _ | L        | ╀   | 4-   | 4             | +        | 4        |
| -  | 109      |           | L        | ╀  | 4       |   | L        | 4   | 4  | 1             | 4        | 4-       |
| <u> </u>                                     | 110      |           | L        | ╀  | 4       | _ | _        | 1   | ┸  | 4             | 4        | 1        |
| _  | 111      | _         | L.       | Ŀ  | 1       |   | L        | ╀   | ┸  | 1             | _ _      | _        |
| _  | 112      |           | L        | L  | 4       | _ | L        | Ļ   | 丄  | 1             | ᆚ        | ┦        |
|  | 113      |           | L        | L  | 1       | _ | L        | ╀   | 1  | $\perp$       | ┸        | 1_       |
| _  | 114      |           | L        | L  | 1       |   |          | L   | ┸  | ┸             | $\perp$  | ┸        |
| $ldsymbol{ldsymbol{ldsymbol{ldsymbol{eta}}}$ | 115      | _         | L.       | L  | 1       |   |          | L   | $\perp$  |               |          | L        |
| $\Box$                                       | 116      | _         |          | L  | $\perp$ |   |          | L   |  | L             |          | L        |
| L  | 117      | _         |          | L  | L       |   |          | L   | 1  | L             | L        | <u>.</u> |
| L_   | 118      |           |          | L  | L       |   |          | L   |  |               |          |          |
|  | 119      | ]         |          |    |         | Į |          |     |  | Γ             |          | Ţ        |
|  | 120      | 7         |          |    | Τ       | ٦ |          | Γ   | Т  | Г             | Т        | T        |
|  | 121      | 7         | _        | T  | t       | 7 | _        | Τ   | T  | +             | ╈        | T        |
|  | 122      | 7         |          | Г  | T       | 7 |          | T   | ✝  | 1             | +        | 十        |
|  | 123      | 7         |          | 厂  | t       | 7 | _        | Г   | 十  | T             | 1        | †        |
|  | 124      | 7         | _        |    | T       | ┪ |          | 1   | †  | T             | +        | T        |
|  | 125      | 7         |          |    | T       | 7 |          | Г   | $\top$   | 1             | 1        | $\top$   |
|  | 126      | ┪         | _        |    | T       | 7 |          | 1   | Τ  | T             | ✝        | $\top$   |
|  | 127      | $\neg$    | _        |    | T       | 7 |          | Г   | Τ  | T             | $\top$   | 1        |
|  | 128      | $\neg$    | _        | Γ  | T       | T |          | Г   | Τ  | T             | 1        | T        |
| T  | 129      | ヿ         |          |    | T       | 7 | _        | Г   | T  | T             | T        | $\top$   |
| Ī  | 130      | 1         |          |    | T       | 7 |          | Г   | 1  | Τ             | 1        | $\vdash$ |
| 1  | 131      | ╗         |          |    | Г       | T |          | Γ   |  |               | $\top$   | ⇈        |
|  | 132      | T         |          |    | T       | 7 | _        | Г   | $\vdash$   | 1             | ✝        | т        |
| 7  | 133      | ヿ         |          |    | Г       | 7 |          | ┪   | ╆┈   | ✝             | ✝        | П        |
|  | 134      | 7         |          |    | T       | 7 |          | Ι   | Τ  | Τ             | T        | П        |
| 7  | 135      | 7         |          |    | 1       | + | _        | Г   | ⇈  | Τ             | Τ        | П        |
| 7  | 36       | 7         |          |    | Τ       | 7 |          | Г   |  | T             | T        | П        |
| 1  | 137      | T         |          |    | Τ       | † |          |     | Τ  | T             | $\top$   | Ħ        |
|  | 38       | 7         | 7        | _  | Τ       | 7 |          |     | 1  | Τ             | 1        | П        |
|  | 39       | 7         | ┪        |    | T       | T |          |     | 1  | Г             | T        | П        |
| _  | 40       | T         |          | _  | Г       | 1 | _        |     |  | Г             | Т        | П        |
|  | 141      | +         | ٦        | _  | H       | + | _        | _   | ┢  | ┢             | ✝        | Н        |
|  | 42       | +         | ┪        | -  | ┢       | + | _        |     | ┰  | H             | ╁╌       | Н        |
|  | 43       | $\dagger$ | -        |    | H       | + | -        | _   | <del>                                     </del> | <del> </del>  | $\vdash$ | H        |
| _  | 44       | +         | -        |    | H       | + | $\neg$   | _   | <del> </del>                                     | <del> -</del> | t        | Н        |
|  | 45       | 十         | -        |    | ۲       | + | -        |     | Н  | Η-            | †-       | ╁┤       |
|  | 46       | +         | -        | _  | Н       | + | -        | -   | Ι-   | t             | t        | H        |
|  | 47       | 十         | $\dashv$ | _  | H       | + | $\dashv$ | -   | <del> -</del>                                    | Н             | ╁        | Н        |
|  | 48       | ╁         | ᅱ        | _  | H       | + | ┥        | _   | ┢  | $\vdash$      | +        | Н        |
|  | 49       | +         | ┪        |    | H       | + | -        | -   | -  | $\vdash$      | H        | Н        |
| <del>-  </del> ;                             | 50       | ╁         | -        |    | -       | + | -        | _   | $\vdash$   | H             | 一        | Н        |
|  |          |           | _        |    | _       |   |          | _   | _  |               | _        |          |

If more than 150 claims or 10 actions staple additional sheet here

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